



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/520,864	02/25/2005	Masato Takai	232569	4434
23460	7590	09/06/2007		
LEYDIG VOIT & MAYER, LTD TWO PRUDENTIAL PLAZA, SUITE 4900 180 NORTH STETSON AVENUE CHICAGO, IL 60601-6731			EXAMINER FORTUNA, ANA M	
			ART UNIT 1723	PAPER NUMBER
			MAIL DATE 09/06/2007	DELIVERY MODE PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/520,864

Applicant(s)

TAKAI ET AL.

Examiner

Ana M. Fortuna

Art Unit

1723

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 11 January 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-14 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1, 3, 4 and 8-14 is/are rejected.
- 7) ☒ Claim(s) 2 and 5-7 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- ☐ Notice of Informal Patent Application
- ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1, 3, 4, 10, 11, 13, 14 are rejected under 35 U.S.C. 102(b) as being anticipated by Buck et al (US 4,935,141). Patent '141 discloses a porous membrane comprising a polyamide material, the polyamide is hydrophobic, e.g. a water absorption of 0 %; which is within the claimed limits of "no more than 10 %" (abstract, column 1, line 52 through column 2, line 45).

As to claim 3, the proportion of polyamide component in the membrane is disclosed as being in the range of 85-95 % (column 2, lines 26-32).

As to claim 4, adding PVP (polyvinylpyrrolidone) e.g in a range from 5-15 % is also disclosed in the patent '141 (column 2, lines 26-32).

The membrane thickness is further disclosed (column 10, claims 3, 14, and 16; and column 4, second paragraph).

As to claim 11, the membrane in patent '141 is disclosed as asymmetric and includes a support layer and a dense layer (as discussed in the previous sections, e.g column 4, and claims). As to claim 13, the pore size of the support layer is disclosed (column 4, second paragraph). The later section teaches asymmetric membrane with pores at the surface between 20-80 Angstroms, an asymmetric structure (column 1, last paragraph,

Art Unit: 1723

bridging column 2), which teaches the pores in the subsequent layers are larger than the pores of the skin, can be larger than 2,000 Angstroms.

As to claim 14, the beta(2) microglobulin clearance is inherent of the membrane in patent '141, based on comparing the skin layer pore size in the present invention (specification, paragraph bridging pages 15-16), and membrane of '141.

3. Claims 1, 9, 10, 11, 14, are rejected under 35 U.S.C. 102(b) as being anticipated by Effert et al (US 4,217,227). Patent '227 discloses a semipermeable membrane having an absorption capability of from 4.5 to 10 %, the membrane is porous, e.g. ultrafiltration membrane, reverse osmosis (abstract, column 9, lines 8-22). As to claim 9, the viscosity is disclosed (see column 9, lines 36-38). Patent '227 further teaches the membrane thickness, as in claim 10 (column 9, lines 56-57). As to claim 11, the membrane can have an asymmetrical structure (column 6, lines 66-68, and column 7, line 1). Regarding claim 14, the microglobulin clearance appears to be inherent of the membrane having the ultrafiltration pore size or molecular weight cut-off.

Allowable Subject Matter

4. Claims 2, 5, 6, 7, are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

5. The following is a statement of reasons for the indication of allowable subject matter: the membrane made from the composition of claim 2, e.g. "porous membrane" is not disclosed or suggested in the prior art of record. The membrane composition and

Art Unit: 1723

the production of films (non-porous) are disclosed in the prior art, 200-178368 (machine translation attached); suggestions to make a porous membrane or medium to make the membrane including pores are not taught in the preference. Patent 2001-328681 teaches the use of the polyamide composition for packaging/ containers made of polyamide.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 8 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Buck et al (US 4,935,141) in view of Dennison et al (US 5,006,247). Patent '141 teaches an ultrafiltration membrane made from a hydrophobic polyamide with a degree of water absorption of zero) discloses, as discussed above. The polyamide glass transition point (temperature) is not disclosed. Dennison ('247) teaches making ultrafiltration membrane by selecting a polyamide with a glass transition temperature of less than 200 degree C., or lower than 60 degree C, and further mixing the polyamide with a hydrophilic agent (abstract, column 4, second paragraph, and column 8, lines 30-56), the polyamide as disclosed in the previous section is a Nylon 6, 6. It would have been obvious to one skilled in this art at the time this invention was made to select conventional hydrophobic polyamide for the membrane of patent '141, because the type

Art Unit: 1723

of polyamide is not critical, but it should be capable of producing ultrafiltration membranes, as in patent '247. As to claim 12, the membrane surface roughness is not disclosed, but it seems to be imparted by the presence of hydrophilic groups of the membrane surface. Furthermore, patent '247 suggests the addition of alcohols and surfactants (column 5, line 44 through column 6, line 10), which can further inherently reduce the membrane surface roughness.

Conclusion

8. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action. Patent 6,846,868 is added as teaching the composition of claim 1, however, the patent fails to teach "porous membranes" made from the composition.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ana M. Fortuna whose telephone number is (571) 272-1141. The examiner can normally be reached on 9:30-6:00 M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David R. Sample can be reached on (571) 272-1376. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 1723

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Ana M Fortuna
Primary Examiner
Art Unit 1723

/af
September 3, 2007

/Ana Fortuna/
Primary Examiner, A.U. 1723